

[Privacy/Security Notice](#)

Release date: 11/12/01
For more information contact:
Geoff Tyree, (509) 372-1145

Spray-on Liner Used To Upgrade Process Pits In Hanford's Tank Farms

RICHLAND, Wash. - CH2M HILL Hanford Group is applying a substance similar to a spray-on truck bed liner in tank farm process pits to make upgrades safer, easier, and less costly.

Polyurea is a two-part sprayable coating that is being used to provide a secondary containment liner in concrete process pits, which are often contaminated because they contain valves, pumps, and other equipment used to transfer radioactive waste in and out of Hanford's underground tanks. The pits are only opened when necessary to reduce risk of spreading contamination to the environment and employees, and because it is very costly to do so. Over the decades since they were built some deterioration has occurred. Now the pits are being refurbished and upgraded in preparation to transfer waste to the planned vitrification plant.

"The driving force behind the use of polyurea is the need to protect our employees by keeping their exposure to radioactivity as low as reasonably achievable," said Rick Raymond, CH2M HILL Hanford Group vice president of projects. "But polyurea also benefits us by protecting the environment, and saving time and money."

Any surface cracks in the concrete pit walls have always had to be ground out, sanded, grouted, sealed, and recoated with epoxy. Application of polyurea replaces much of this time-consuming procedure, saving money and protecting employees by reducing the duration of work performed in radiation areas. Unlike the epoxy previously used - which hardens with age and exposure to radiation - polyurea is elastic and has high tensile strength. It can be sprayed to stretch across gaps and seal pit surfaces providing a durable, abrasion-resistant barrier to the environment. When the substance is applied with precision, a smooth surface can be formed that can easily be decontaminated.

Polyurea is more difficult to apply than epoxy. The two separate chemical components are heated and combined at high pressures as they exit the spray nozzle, forming a compound. Because polyurea gels in about 15 seconds and is tack-free in one minute it can be applied to a desired thickness. A comprehensive training program has been developed to teach painters everything from advanced spray techniques to troubleshooting and general repair of the equipment.

The first three process pits sprayed with polyurea - located in double-shell tank farms in Hanford's 200 East Area - are just the beginning.

"Thirty-two additional pits are scheduled to be upgraded starting this fiscal year," said Ken Jordan, CH2M HILL Hanford Group project manager for tank farm infrastructure upgrades. "Depending on the condition of the pit, use of polyurea coating as secondary containment could save the River Protection Project as much as several hundred thousand dollars per pit."

CH2M HILL Hanford Group, Inc. is DOE's Office of River Protection prime contractor with responsibility for storing, characterizing and retrieving for treatment approximately 53 million gallons of highly radioactive and hazardous waste stored in 177 underground tanks.

###

[\[Hanford Home Page\]](#) [\[Press Index\]](#)

For questions or comments about this page, please send email to [Geoff Tyree](#)

URL: <http://www.hanford.gov/press/2001/chg/chg-111201.html>

Last Updated: 11/12/2001 15:50:46

